



**OPEN MEETING**

**REGULAR MEETING OF THE VILLAGE ENERGY TASK FORCE**

**Wednesday, September 12, 2018 - 9:30 A.M.  
Laguna Woods Village Community Center Willow Room  
24351 El Toro Road**

**NOTICE and AGENDA**

*This Meeting May be Recorded*

1. Call to Order
2. Acknowledgment of Media
3. Approval of the Agenda
4. Approval of Meeting Report for August 1, 2018
5. Chairman's Remarks
6. Member Comments (*Items Not on the Agenda*)
7. Department Head Update

**Consent:**

*All matters listed under the Consent Calendar are considered routine and will be enacted by the Task Force in one motion. In the event that an item is removed from the Consent Calendar by members of the Task Force, such item(s) shall be the subject of further discussion and action by the Task Force.*

8. Project Log
9. SCE Street Light Outage Report

**Reports:**

10. Energy Efficient Accomplishments
11. Field Trip to UCI (oral discussion – Bert Moldow)

**Items for Future Agendas:**

- Proposal for Future Energy Projects
- Officer Selections for Energy Task Force
- Electric Vehicle History Report
- Golf Cart Report
- EV Charging Stations at Stand Alone Laundry Rooms
- LED Solar Street Lights (low priority)
- 2-story Buildings LED Lighting Pilot Program (low priority)
- Costs for Level 2 Charging Stations at Stand-alone Laundry Rooms (low priority)
- Investigate the installation of conduit from the electric panels in GV to service the carports
- Install Level II EV Bollard Chargers (on the streets)



## Laguna Woods Village®

- 2-3 Year Energy Plan: (Verbal Discussion)
  - a) Distributed Energy Resources Contract
  - b) Microgrid Investigation
  - c) Street Light LED Replacement Program
  - d) Street Light Maintenance Contract

### **Concluding Business:**

Date of next meeting – November 7, 2018  
Adjournment

Bill Walsh, Chair  
Ernesto Munoz, Staff Officer  
Telephone: 268-2281



**OPEN MEETING**

**REPORT FOR REGULAR MEETING OF THE VILLAGE ENERGY TASK FORCE**

**Wednesday, August 1, 2018 - 9:30 A.M.  
Laguna Woods Village Community Cypress Room  
24351 El Toro Road**

**MEMBERS PRESENT:** Bill Walsh – Chair, John Frankel, Carl Randazzo, Juanita Skillman, Bert Moldow, Jim Juhan

Advisor: Steve Leonard

**MEMBER ABSENT:** None

**OTHERS PRESENT:** Jim Matson, Dick Palmer, Councilmember Shari Horne

**STAFF PRESENT:** Ernesto Munoz - Staff Officer, Laurie Chavarria

**1. Call to Order**

Chair Walsh called the meeting to order at 9:30 A.M.

**2. Acknowledgment of Media**

Chair Walsh noted no members of the media were present.

**3. Approval of the Agenda**

Chair Walsh added Councilmember Shari Horne as a speaker under item 6a and added Task Force Charter Revisions as item 14. The agenda was approved as amended.

**4. Approval of Meeting Report for June 6, 2018**

The Meeting Report of June 6, 2018, was approved as written. Chair Walsh asked that a signature line for the vice chair be added to future meeting reports.

**5. Chairman's Remarks**

Chair Walsh remarked that Mutual 50, The Towers, was invited to participate in the Village Energy Task Force meetings but a representative was not in attendance at today's meeting. Chair Walsh shared that COO, Siobhan Foster is working with SCE on their electric vehicle fleet incentive program. He would like to see an SCE representative at a future meeting to speak about this program. Mr. Munoz

Village Energy Task Force  
August 1, 2018  
Page 2 of 5

indicated that the CEO's Office is in the process of arranging a visit from the SCE representative.

**6. Member Comments (*Items Not on the Agenda*)**

- Nadine & Alfred Meissner (3071-B) – commented on EV charging issues in their carport.

Advisor Leonard, Chair Walsh and Director Skillman briefly responded to the members comments.

**6a. Councilmember Shari Horne – CCA/CCE**

Councilmember Shari Horne spoke about what she learned when she attended a UCI lecture regarding Community Choice Aggregation. This program is not about saving money, it is about using a clean energy source and is available to municipalities only.

Discussion ensued regarding generation/distribution costs from SCE, time-of-use charges, and informing the Community about other sources of clean energy.

**7. Department Head Update**

Staff Officer Ernesto Munoz provided updates on the Street Light LED conversion pilot program, the SCE cable upgrade project in United Mutual, the walkway lighting upgrades in Gates 5, 6, 7 & 8 in Third, and also provided an update on the audit of United's walkway lighting in Gates 5 & 6.

Discussion ensued regarding the solar audit report expected from JCI, the cost of their management fee and their legal obligations to provide required solar documents.

**Consent:**

*All matters listed under the Consent Calendar are considered routine and will be enacted by the Task Force by one motion. In the event that an item is removed from the Consent Calendar by members of the Task Force, such item(s) shall be the subject of further discussion and action by the Task Force.*

A motion was approved and unanimously carried to approve all items under the consent calendar. Staff was directed to move items 10 and 11 to Items for Future Agendas.

- 8. Project Log**
- 9. SCE Street Light Outage Report**
- 10. Officer Selections for Energy Task Force**
- 11. Electric Vehicle History Report**

**Reports:**

**12. Prioritized Work Items from Each Corporation for the Energy Consultant**

Staff Officer Ernesto Munoz summarized the report of prioritized work items for the energy consultant and answered questions from the Task Force.

Discussion ensued regarding an overall EV charging strategy, conservation opportunities (window tinting, LED lighting), load studies, back-up generators using alternative energy, and the components of a Microgrid.

A motion was made and unanimously approved to direct staff to develop a scope of work for the energy priorities chosen by each Corporation as listed below, in order to solicit a proposal from the energy consultant to develop and execute said priorities.

**United:**

1. Review the current United Mutual electric infrastructure with an eye toward the current, 5 and 10 year load capacity needs for electric panels, transformers etc.
2. Perform an analysis and report on the findings of the electric infrastructure review.
3. Prepare a strategic action plan for recommended electric infrastructure upgrades, as well as EV charging, solar and any other recommended upgrades that will make our systems more efficient and thus reduce our operating costs.

**Third:**

1. Review the current Third Mutual electric infrastructure with an eye toward the current, 5 and 10 year load capacity needs for electric panels, transformers etc.
2. Perform an analysis and report on the findings of the electric infrastructure review.
3. Prepare a strategic action plan for electric infrastructure upgrades, particularly in the multi-story building garages and carports, as well EV charging, solar and other efficiencies.

**GRF:**

1. Research the feasibility for alternative energy & microgrids for electrical energy generation.
2. Develop a Community Strategy for EV Charging Stations.

### **13. Third Mutual Solar Photovoltaic System Update**

Staff Officer Ernesto Munoz summarized the report for the Third Mutual solar photovoltaic system and answered questions from the Task Force.

Discussion ensued regarding the monitoring company, panel cleanings, and the rise in meter fees from SCE.

### **14. Charter Revisions**

Chair Walsh discussed the changes that the United Mutual attorney suggested for the language of the Village Energy Task Force Charter.

Changes suggested were to remove the word “safety” from the third paragraph, and also to change Laguna Woods Village to “their respective residents” in the same paragraph.

A motion was made to accept the suggested changes and send the revised Charter directly to the United, Third and GRF Board meetings for review and approval.

By a vote of 6/1/0 (Director Moldow opposed), the motion carried.

### **Items for Future Agendas:**

- Officer Selections for Energy Task Force
- Electric Vehicle History Report
- Golf Cart Report
- EV Charging Stations at Stand Alone Laundry Rooms
- LED Solar Street Lights (low priority)
- 2-story Buildings LED Lighting Pilot Program (low priority)
- Costs for Level 2 Charging Stations at Stand-alone Laundry Rooms (low priority)
- Investigate the installation of conduit from the electric panels in GV to service the carports
- Install Level II EV Bollard Chargers (on the streets)
- 2-3 Year Energy Plan: (Verbal Discussion)
  - a) Distributed Energy Resources Contract
  - b) Microgrid Investigation
  - c) Street Light LED Replacement Program
  - d) Street Light Maintenance Contract

### **Member Comments:**

- Advisor Leonard spoke about the Solar International Convention coming up in September. He suggested that a representative from each Corporation attend the convention.

Village Energy Task Force  
August 1, 2018  
Page 5 of 5

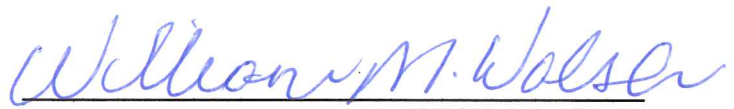
- Director Skillman requested that staff arrange a field trip for the Task Force to visit the UCI campus to review their use of fuel cells.

**Concluding Business:**

Date of next meeting – September 12, 2018

**Adjournment**

This meeting was adjourned at 11:50 AM



Bill Walsh, Chair  
Third Laguna Hill Mutual

## Energy Task Force Project Log (August 2018)

### United Mutual

#	Name	Description	Status	Estimated Completion	Budget
1	Walkway Lighting Program	This program is dedicated to improving walkway lighting through additional fixture installation, or the upgrade of existing ones. Alternatives to the existing pagoda style fixtures are evaluated as needed. Requests for additional lighting are received from residents on an ongoing basis. Those requests are vetted and additional lighting is installed if it meets the program requirements.	Staff is processing additional lighting requests and began installations in late February. 19 additional lights have been added to date. The Committee awarded an "as needed" contract to US Energy for lighting consultant services. US Energy has performed an audit of the walkway lighting in Gates 5 and 6 and. The Committee decided not to move forward with any additional walkway lighting improvements in this area.	December 2018 Annual	Budget: \$38,408 Invoiced: \$21,516.21 Balance: \$16,891.79  Cumulative Expenditures 2010 through 2017: \$295,748
2	Energy Consultant Services	An Energy Consultant will be used as needed in order to advance United's and the Community's future energy initiatives.	A contract was awarded to The Energy Coalition. The Energy Task Force provided their top priorities to the energy consultant. The consultant is currently working on a proposal which will be presented to the Village Energy Task Force in November.	December 2018 Annual	Budget: \$50,000 Invoiced: \$0 Balance: \$50,000
3	2018 Pushmatic Electrical Panel Replacement	This project is dedicated to replacing 2,750 Pushmatic electric panels over a 10 Year period. The Pushmatic panels are obsolete and their replacement parts are no longer manufactured or supported. The Board entered into a five year contract with Coastal Current Electric Corp. to install 1,375 Pushmatic electric panels. This contract expires in May 2021; at which time a new five year contract will be required to complete the remaining 1,375 electric panels.  <b>Estimated Project Completion: Year 2026</b>	In 2016 and 2017 a total of 387 Pushmatic panels were installed. The 2018 Pushmatic Replacement Program started January 2018 with 207 panels installed as of August 1, 2018.	December 2018 Annual	2018 Budget: \$371,250 Invoiced: \$326,453 Balance: \$44,797  Corrected Cumulative Expenditures 2016 through 2017: \$584,224



## Third Mutual

1	<b>Solar Street Light Pilot Program</b>	The Energy Committee directed staff to install a solar powered street light as a pilot project. The Committee's goal was to determine whether the solar street light was an economical option to improve street lighting levels without trenching for new conduits.	The pilot installation was completed approximately one year ago on Del Faro. The Board has expressed interest in keeping this fixture and requested a quote to install it permanently. A quote was procured and provided to the Committee for use of a marbleite pole to match others in the community. The Committee directed staff to ask the contractor to wait until Siemens completes the light assessment to determine whether this pilot should be installed permanently.	N/A	Not Budgeted
2	<b>2018 Electrical Systems</b>	This program is dedicated to repairing or replacing electrical equipment as needed.	Funding is provided for this program as a contingency to address electrical panel failures. Two replacements have occurred this year at Buildings 3366 and 3242.	December 2018 Annual	Budget: \$50,000 Invoiced: \$7,950 Balance: \$42,050
3	<b>Energy Consultant Services</b>	An Energy Consultant will be used as needed in order to advance Third's and the Community's future energy initiatives.	A contract was awarded to The Energy Coalition. The Energy Task Force provided their top priorities to the energy consultant. The consultant is currently working on a proposal which will be presented to the Village Energy Task Force in November.	December 2018 Annual	Budget: \$50,000 Invoiced: \$0 Balance: \$50,000
4	<b>Exterior Lighting</b>	In 2018 funding for this program will be allocated towards the purchase of the Southern California Edison street light infrastructure. a contract with Siemens in the amount of \$843,857 was executed. The scope of work is to assist with the street light acquisition, retrofit of the existing lighting fixtures, and to perform the operations and maintenance of the asset for three years. Additionally, it will offset the cost of consulting services to assist with the acquisition, and the upgrade of other exterior lighting.  This program also includes funding for walkway lighting needs.	Street Lights: On May 30 the CPUC approved the sale & transfer of streetlights from SCE to Third. The Siemens team will be working with SCE during the transfer process of surveying, tagging, and auditing the assets that will be purchased from SCE (street light pole, lighting fixtures, above-ground equipment, and underground conduits/wiring). Once the assets have been identified SCE will invoice Third Mutual. The transfer process is scheduled to be completed in November 2018. In September 2018 a task force will select several candidate LED fixtures and locations for the pilot program. In November-December 2018 trial fixtures will be temporarily installed to evaluate their luminance and aesthetics. Once a fixture is selected the LED retrofit of 788 fixtures is scheduled to be conducted in February-March 2019.  Walkway Lighting: A contract was awarded for walkway lighting upgrades in Gates 5, 6, 7 & 8 and work is currently underway.	March 2019	Budget: \$500,000 Invoiced: \$36,781 Balance: \$463,219

GRF					
1	Energy Consultant Services	An Energy Consultant will be used as needed in order to advance GRF's and the Community's future energy initiatives.	A contract was awarded to The Energy Coalition, for a not to exceed amount of \$50,000 and was approved at the July 3, 2018, Board meeting. The Energy Task Force provided their top priorities to the energy consultant. The consultant is currently working on a proposal which will be presented to the Village Energy Task Force in November.	On-going	Contingency Fund Supplemental Appropriation: \$50,000 Invoiced: \$0 Balance: \$50,000
2	Community Center HVAC and Controls Upgrade	This project is dedicated to making the facility more energy efficient by engineering and retrofitting the Community Center with a new Heat Ventilation Air Conditioning (HVAC) and upgraded controls being integrated to the existing Energy Management System (EMS).	A contract for this project was awarded at the July 3, 2018, Board meeting. A pre-construction meeting was held with the contractor and the 'Bridging Document' consultant on August 3. The HVAC contractor (AMS) submitted a schedule indicating the design will be prepared in September; the building permit will be obtained in November; the HVAC fabrication will be completed by February 2019; and the HVAC installation will take place from February-April 2019.	April 2019	Facilities Fund Contract: \$1,447,163 Invoiced: \$0 Balance: \$1,447,163

Facility	Reported	Closed	Status Type	*Note
B3020	1/8/2018	1/10/2018	Completed	street light in front of bldg 3020 reported by resident walking
B3340	1/8/2018	1/16/2018	Completed	street light at CDS340 is out
B3111	1/22/2018	1/29/2018	Completed	Edison lighting # 1961519E out / YT tagged.
B3123	1/22/2018	1/29/2018	Completed	Edison lighting # 1961870E out / YT tagged.
B3154	1/22/2018	1/29/2018	Completed	Edison lighting # 1961843E out / YT tagged
B3301	1/22/2018	1/29/2018	Completed	Edison lighting # 4468424E turning on-off every 1-2 minute / YT tagged.
B5378	1/22/2018	1/25/2018	Completed	Edison lightpole #2044070E light on, daylight hours, west of building, adjacent Avenida Sosiega, pos
B5380	1/22/2018	1/29/2018	Completed	Edison lightpole #2258601E light on, daylight hours, southeast of building, adjacent Paseo Del Lago
B5381	1/22/2018	1/29/2018	Completed	Edison lightpole #2030043E light on, daylight hours, east of building, adjacent Paseo Del Lago West,
B5490	1/22/2018	1/29/2018	Completed	Edison lightpole #2118528E light on, daylight hours, adjacent Paseo Del Lago West, possible timer or
B5497	1/22/2018	1/29/2018	Completed	Edison lighting # 2118593E out / YT tagged.
B5509	1/22/2018	1/29/2018	Completed	Edison lightpole #2030044E light on, daylight hours, west of unit C, adjacent Paseo Del Lago West, p
B5206	2/15/2018	2/26/2018	Completed	edison light not working properly #e1270502 in front of unit
B3366	2/15/2018	2/26/2018	Completed	SCE Light # 2043927 E
B489	2/15/2018	2/26/2018	Completed	Edison Light Out - Unknown # - end of CDS 14
B5529	2/15/2018	2/26/2018	Completed	street light in front of building is out
B5348	2/15/2018	2/26/2018	Completed	Light # 2008541E - Missing Label < Tagged with Caution Tape >
B3437	2/15/2018	2/26/2018	Completed	Blinking light Edison pole - # 2043909E
B3491	2/15/2018	3/13/2018	Completed	Concrete light pole - Edison- #4468416E Light flickering
B3252	2/15/2018	2/26/2018	Completed	SCE Light 1953834E
B3429	2/15/2018	2/26/2018	Completed	Edison Lighting Pole # 2043903E turns off & on every 1-2 minutes / YT tagged.
B2389	2/15/2018	2/26/2018	Completed	SCE Light # 1879900E is out
B5331	2/15/2018	2/26/2018	Completed	FRONT OF MANOR EDISON LIGHT OUT #2030748E
B5128	2/15/2018	2/26/2018	Completed	Light out at end of street <tripping hazard> unknown pole #
B5568	2/16/2018	2/26/2018	Completed	SCE Pole #2195151E. Light Out. Located at intersection of Portora and Sosiega West. Tagged.
B3092	2/26/2018	3/5/2018	Completed	SCE Light Out - # 1961272E
B3501	3/9/2018	3/16/2018	Completed	Edison lightpole #2070024E light on, during daylight hours, possible timer or sensor issue.
B5557	3/9/2018	3/16/2018	Completed	Edison light pole # 2070014E turns off / on continuous on Bahia Blanca West near building 5557 / YT
B3071	3/9/2018	3/16/2018	Completed	SCE Light # 1961379E
B5596	3/9/2018	3/16/2018	Completed	Unknown pole #. Does not turn on most of time
B3115	3/15/2018	3/21/2018	Completed	SCE Light # 1961505E is out
B5200	3/15/2018	3/19/2018	Completed	Edison lightpole #2030717E light on, daylight hours, possible timer or sensor issue.
B5296	3/15/2018	3/19/2018	Completed	Edison lightpole #2030724E light on, daylight hours, possible timer or sensor issue.
B5297	3/15/2018	3/19/2018	Completed	Edison lightpole #2030681E, between buildings 5297 & 5298, light on, daylight hours, possible timer
B3133	3/15/2018	3/21/2018	Completed	SCE Light Out - Edison # 1961545E
B5559	3/16/2018	3/16/2018	Completed	Edison light pole (#2196171E) in front of 5559-B flickers on and off during nighttime.
B5114	3/20/2018	3/22/2018	Completed	Edison lightpole #2030687E light on, daylight hours, possible timer or sensor issue.
B5130	3/20/2018	3/22/2018	Completed	Edison lightpole #2030685E light on, daylight hours, possible timer or sensor issue.
B5138	3/20/2018	3/22/2018	Completed	Edison lightpole #2030683E light on, daylight hours, possible timer or sensor issue.
B3117	3/20/2018	3/23/2018	Completed	SCE Lightpole # 1961508E is out
B5167	3/20/2018	3/21/2018	Completed	Edison lightpole #2030677E light on, daylight hours, possible timer or sensor issue.
B5170	3/20/2018	3/21/2018	Completed	Edison lightpole #2030676E light on, daylight hours, possible timer or sensor issue.
B5179	3/20/2018	3/21/2018	Completed	Edison lightpole #2030651E light on, daylight hours, possible timer or sensor issue.
B5180	3/20/2018	3/21/2018	Completed	Edison lightpole #2030712E light on, daylight hours, possible timer or sensor issue.
B5261	3/20/2018	3/22/2018	Completed	Edison lightpole #2030680E light on, daylight hours, possible timer or sensor issue.
B5165	3/20/2018	3/22/2018	Completed	Edison lightpole #2030878E light on, daylight hours, possible timer or sensor issue.
B5190	3/28/2018	4/4/2018	Completed	concrete pole light near blng flickering
B3071	3/28/2018	4/12/2018	Completed	Post light on side of B3071 near laundry room - not working
B3354	3/28/2018	4/6/2018	Completed	Edison street light out # 4229322E at the intersection of Monte Hermoso & CDS 334 / YT tagged.
B3117	3/28/2018	4/4/2018	Completed	Edison Light # 1961511E is out
B2397	3/29/2018	4/5/2018	Completed	SCE Light # 1870770 is out
B2397	4/3/2018	4/5/2018	Completed	Contact Edison - Path Lights Out: 1879779E, 1879784E & 1879781E
B3070	4/3/2018	4/5/2018	Completed	Contact Edison - Path Light # 1981379E between B3071 & B3074 is Out
B2218	4/3/2018	4/5/2018	Completed	Concrete pole nxt to the gate <Mnr A> flickering - mem also requesting to get it replaced <old/dirty

B3242	4/3/2018	4/5/2018	Completed	Edison Light # 1873691E is out in front of Bldg 3242
B2405	4/13/2018	4/20/2018	Completed	Edison light (#1879802E) near building burning out, marked w/ YT
B2398	4/13/2018	4/20/2018	Completed	Edison light flickers, pole #1879781E, by 2398 Via Mariposa West CDS 221
C357	4/13/2018	4/20/2018	Completed	**Edison light out tagged with tape <possibly purple & unknown #> on corner of avenida sosiega & mont
B3123	4/13/2018	4/20/2018	Completed	Edison Light 1961870E out by building 3123 / YT tagged
B2384	4/16/2018	4/23/2018	Completed	Edison light out, pole #1879736E, by 2348 Via Mariposa West. Tagged with yellow tape. CDS 203
B2397	4/16/2018	4/23/2018	Completed	Edison light out, pole #1379770E, by 2397 Via Mariposa West. Tagged with yellow tape. CDS 219
B3384	4/16/2018	4/23/2018	Completed	street edison pole light # 2043935E near 3384-A is out
C353	4/16/2018	4/23/2018	Completed	SCE light 2070028E out on Bahia Blanca West & Monte Hermoso
B3277	4/16/2018	4/23/2018	Completed	Contact Edison - Path Light # 1974544E is out
B3510	4/16/2018	4/23/2018	Completed	Edison lightpole #2070043E light on, daylight hours, possible timer or sensor issue.
B5497	4/30/2018		In Progress - Reported	Light not working <pole # 21185935>
B3338	4/30/2018	8/3/2018	Completed	Southwest of building, adjacent cul de sac roadway, Edison lightpole # 2044082E light on, daylight h
B3407	4/30/2018	5/2/2018	Completed	Edison pole light flickering on/off - #1961011E in front of manor 3407 at the sidewalk.
B3003	5/2/2018	5/2/2018	Completed	Street light is out between 3004-D & 3003-D <no pole #>
B3499	5/11/2018	5/14/2018	Completed	El Toro hi conduit blew out lights 2070028E
B3499	5/11/2018	5/14/2018	Completed	CONDUIT WIRING DAMAGED BY ETW 2070029E
B3499	5/11/2018	5/14/2018	Completed	CONDUIT WIRING DAMAGED BY ETW 2072030E
B3071	5/17/2018	5/22/2018	Completed	#1961382E not working, has a tag on it
B5509	6/13/2018	6/14/2018	Completed	Edison light pole #2118824E, light on during daylight hours, possible timer or sensor issue.
B3152	6/13/2018	6/14/2018	Completed	Edison Light # 1961839E (light pole IFO MNR (B) is out
B5282	6/18/2018	8/8/2018	Completed	street light is out btwn manor 5283 and 5284
B2404	6/18/2018	6/25/2018	Completed	Edison Lights 1879789E & 189790 E are both out < on grass area by Bldg 2404 >
B5337	6/18/2018	6/25/2018	Completed	2008533E / light tagged with caution tape.
B5284	6/18/2018	6/25/2018	Completed	Near B5284 - Edison light out - #2030728E.... Marked with yellow tape.
B5323	6/18/2018	6/25/2018	Completed	Edison light pole #2008563E is blinking.
B5541	6/18/2018	6/22/2018	Completed	street light in front of manor not working at all <unknown #>
B3061	6/18/2018	6/25/2018	Completed	solar light #1961369-E btw bldg 3061 & 3062
B5327	6/18/2018	6/25/2018	Completed	street light on Bahia Blanca in front of bldg 5327 & 5328 is always on
B2384	6/18/2018	6/22/2018	Completed	Flickering Edison Lighting pole 1879761E south of building 2384 / YT tagged.
B2391	6/18/2018	6/25/2018	Completed	Flickering Edison Lighting Pole 1879777E east of building 2391 / YT tagged.
B2395	6/18/2018	6/22/2018	Completed	Flickering Edison Lighting Pole 1879740E west of building 2395 / YT tagged.
B5328	6/18/2018	6/25/2018	Completed	Edison pole light #2088561E, light on during daylight hours, tagged with yellow caution tape.
B3138	6/18/2018	8/3/2018	Completed	entrance to the cul de sac
B3071	6/21/2018		In Progress - Reported	**1961382E - light has never been fixed per resident - reopened with SCE**
Gate 7	6/25/2018		In Progress - Reported	Requested several updates from SCE
B5518	6/25/2018		In Progress - Reported	Edison light pole is out-Pole# 4252363E between B s 5518 and 5519
B3415	6/25/2018	6/27/2018	Completed	<2043929E>Edison light post comes on and off in front of manr N
B3244	6/27/2018	7/3/2018	Completed	2 concrete lights in front of mnr out 1953854E 1953855E
B5499	6/29/2018		In Progress - Reported	Edison lighting 20700030E out by B5499 / YT tagged.
B3162	6/29/2018	8/3/2018	Completed	LIGHT ON PASEO DE LAGO #2118594 is out - Delay due to determining ownership
B5148	6/29/2018	7/12/2018	Completed	Edison lightpole #203088E, light on during daylight hours, possible timer issue.
B3532	6/29/2018	7/9/2018	Completed	Edison Lighting 2070016E outside B3532 is flickering / YT tagged.
B308	7/5/2018		In Progress - Reported	Behind Gate 1
B3168	7/5/2018	7/12/2018	Completed	The post light is blinking east of 3168 Via Vista Unit D. CDS 303- Delay due to determining ownership
B592	7/5/2018	7/5/2018	Completed	**lampost on walkway by creek behind bldgs 592 & 591 knocked down -Delay due to determining ownership
B3190	7/5/2018	7/12/2018	Completed	SCE Light Pole 1974321E outside of MNR (C) flickering
B5529	7/5/2018	7/9/2018	Completed	street light in front of Mnr O out <unknown pole number>
B4008	8/3/2018		In Progress - Reported	Edison pole #2118315E leaning due to moving van hitting it/in fron of B4008
B5518	8/3/2018		In Progress - Reported	**leaning at 30 or so degrees on the walkway to the front entrance**
B3301	8/3/2018		In Progress - Reported	Edison Light # 1961045E at Carport 3047 near Bldg 3301 is out
B3056	8/3/2018	8/11/2018	Completed	SCE Light # 1961359E in from of MNR (D) is out
B3003	8/3/2018	8/9/2018	Completed	Contact SCE - Two (2) Path Lights Out - # 1873952E & 1873954E
B3132	8/3/2018	8/9/2018	Completed	Edison Light # 1961545E between B3131 & B3132 needs repair
B3224	8/3/2018	8/9/2018	Completed	SCE Street Light Out. #19746345E, Near 3224-A At NE Corner of Carrizo and CDS 24. Tagged w/ Yellow

B3134	8/3/2018	8/9/2018	Completed	Edison Light # 1961550E is out
B5357	8/3/2018	8/9/2018	Completed	light bulb flickering in front of building/ edison pole 2008546E
B5519	8/7/2018		In Progress - Reported	Two unknown pole #'s not turning on in front of B5519
B3384	8/8/2018	8/15/2018	Completed	in front of manor A SCE pole 2043935E light out
B3383	8/8/2018	8/15/2018	Completed	B3383 Punta Alta – Edison light – 2042935E
B3401	8/8/2018	8/15/2018	Completed	B3401 Punta Alta – Edison light – 2008606E
B5108	8/8/2018	8/15/2018	Completed	@ 5108 Duenas – Edison light – 2030712E
B5185	8/8/2018	8/15/2018	Completed	5185 Duenas – Edison light – 2030715E
B3306	8/9/2018	8/11/2018	Completed	Edison light in front of building // 2008731E
B5535	8/9/2018	8/11/2018	Completed	Edison light out in front of manor #4229333-E
B5212	8/17/2018	8/22/2018	Completed	light out/ light# 2030718E/ marked with caution tape.
B3031	8/17/2018	8/22/2018	Completed	Light turns on & off between 3031-B & 3029-A - has yellow tape on it <unknown street number>
B3173	8/21/2018		In Progress - Reported	SCE Light Pole 1961805E Light out. Located SW of B-3173, CDS 303. Tagged.
B3044	8/24/2018		In Progress	Edison Lamp Out - Fixture # 1961364E < Left Side of Walkway by Manor (A)
B3175	8/29/2018		In Progress - Reported	SCE Light Pole 1961602E Light out. Located N of B-3175, CDS 303. Tagged.
B3156	8/29/2018		In Progress - Reported	Light pole was knocked down near B3156. Pole # 1961821E
B5282	8/31/2018		In Progress	street light is out btwn manor 5283 and 5284 since April



## STAFF REPORT

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**DATE:** September 12, 2018  
**FOR:** Village Energy Task Force  
**SUBJECT:** Energy Efficient Accomplishments

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### **RECOMMENDATION**

Review and file.

### **BACKGROUND**

In the past few years a number of significant energy saving initiatives has been implemented by the Boards. These initiatives have not only reduced the Community's energy footprint making it a greener place to live in, but have also netted savings to the residents in the form of reduced utility costs. Given the Board's desire to continue exploring the feasibility of new practices and programs to improve energy efficiency, staff has prepared a list of those completed improvements for the Task Force to establish a baseline moving forward.

In addition to consulting the Corporation's Project Logs, staff reviewed two major energy audit reports completed in the past six years. The two reports, which prioritized a number of energy improvements, were prepared by Johnson Controls Inc. (JCI) in 2015 and the IDS group in 2012. These reports were commissioned by Third Mutual and GRF respectively. The IDS report covered a wide range of topics including a detailed survey and description of the existing facilities. However, it mainly focused on emergency management systems, lighting, HVAC and the pools at all the GRF facilities. The majority of the recommendations in the IDS report has either been implemented, or is currently in the process. The JCI report focused on five core objectives for the Third Mutual, including lighting, laundry, irrigation, solar energy, and fire systems, the majority of which were implemented by the Board.

### **DISCUSSION**

Some of the major energy improvements staff has made at GRF Facilities and within the housing mutuals in the last few years, based on recommendations from IDS Group, JCI and Board Initiatives, are as follows:

#### ***GRF:***

HVAC Improvements: Energy Management Systems (EMS) which are commonly used by entities to monitor, measure, and control their electrical building loads have been installed at a number of facilities. EMS can be used to centrally control devices like HVAC units and lighting systems across multiple locations. They also provide metering, and monitoring functions that allow facility and building managers to gather data and insight that allows them to make more informed decisions about energy activities across their sites.



Since 2012, the community has upgraded almost all of the EMS systems to newer more efficient systems. These systems are all connected to the HVAC units allowing the staff to maximize efficiency, provide the highest level of comfort to the residents and minimize energy costs.

Many of the communities HVAC systems were not performing optimally. Several of them had setups that were poorly designed while many were well beyond their useful life and needed time consuming and costly repairs.

New efficient HVAC systems and upgrades have been made in the Library, History Center, Clubhouses 1, 2, 5, 7, the Woodshop at Clubhouse 4, and the Broadband Facility.

Lighting Upgrades: Since the community's original construction lighting has evolved tremendously. Replacing outdated T12 and T8 fluorescent lighting to modern LED options can provide as much as 79% energy savings. LED lighting is more energy efficient; it burns less energy, produces less heat, and requires less maintenance.

Staff has performed LED lighting upgrades at: Clubhouse 2 parking lot, Clubhouse 3 parking lot, Clubhouse 5 parking lot, some interior rooms at Clubhouse 6, Clubhouse 7 interior lighting & parking lot, maintenance yard parking lot, RV parking lots A & B, Clubhouse 1 interior and outbuildings, Clubhouse 4 interior lighting, Clubhouse 5 interior lighting, Lawn Bowling lighting, Community Center interior and exterior lighting, Maintenance facility buildings D, E and Transportation interior and exterior lighting, walkway bollards at Clubhouse 5, tennis court facility and Clubhouse 7 to Community Center pathway.

Solar Thermal Upgrades: Laguna Woods Village's five swimming pools are heated between 80-86 degrees and represent most of GRF's gas consumption. The original setups were outdated, expensive and lacked efficiency controls. Solar Thermal Water Heating is a simple, reliable, and cost-effective technology that harnesses the sun's energy to provide for the hot water needs of the community pools. Such a system does not depend on fossil fuels and takes energy from the sun to heat stored water. It, therefore, saves money, which is a major advantage of solar heating systems. The staff has implemented this technology at pools 4, 5 and 6.

Equipment Upgrades: In Clubhouse 4 staff has upgraded the pottery kilns to state of the art units which reduced energy consumption.

Electric Vehicles & Charging Stations: The community has purchased hybrid electric vehicles for staff and installation of two Electric Vehicle charging stations at Community Center and Maintenance Yard.

### ***THIRD:***

Lighting Upgrades: All of Third Mutual's common areas, stand-alone laundry rooms and 3-story buildings have had the lights upgraded to LED in locations including breezeways, stairwells and on exterior components as JCI recommended.

The 2-story buildings incorporate a different design and would require new fixtures and locations for LED lighting eliminating any savings benefit. The upgrade has been postponed until it becomes cost-effective or additional benefits are considered.

In 2015 the existing walkway lighting in Third Mutual had 7 watt 2-pin CFL lamps that were not recommended for replacement since this was a fairly energy efficient fixture with low power usage. The Board did request a small test group of 4 watt LED lights a short time later but they failed to provide enough light. Most recently the mutual has begun the replacement of approximately 600 pagoda lights for the bollard style primarily for aesthetic reasons.

The staff is finalizing negotiations to acquire all the Southern California Edison street lights with a November target date. They will perform a LED pilot program with the intention of upgrading all the newly acquired light fixtures after the asset is transferred to Third Mutual from SCE.

Laundry Room Improvements: The trending data for the laundry usage has been on a slow downward trend over several years of tracking, creating very limited potential savings for principal improvements. Numerous options (new washers, heat pumps, tankless water heaters, solar thermal heating) were evaluated but after determining the payback period they were not recommended or considered.

In recent years Third Mutual has focused on downsizing to fit the present needs of the community. In 2016, the energy consumption of all of the stand-alone laundry rooms was reduced by decreasing the 50 gallon water heater count from two to one. Additionally, staff started substituting, only as needed, the 80 gallon heaters in the Garden Villa and LH-21 buildings for the 50 gallon tanks that were removed from other laundry rooms. Recently the recycled inventory has become exhausted and the future installations will transition to the new 20 gallon heaters which will further improve the Mutual's energy efficiency.

Water Conservation: The Third Mutual Water Conservation program has been implemented. It includes monitoring high tier water usage in Manors, investigating and repairing leaks and using various communications to educate residents on how to reduce water consumption.

Solar Generation: A 12-unit 841.32 kWDC solar photovoltaic system was built and has been running since June 2017 in Third Mutual. It currently supplies approximately 1M kWh of electricity each year with relatively low maintenance costs.

Improvements considered and not implemented:

The fire alarm upgrades were identified at 38 buildings but it was noted that there would be no savings from the JCI installation unless this was included as part of a larger installation. Since many of the recommendations were handled by PCM/VMS directly, this option wasn't considered.

After a review by the board the upgrade program was put on hold awaiting wireless technology. It was determined that running conduits on the outside of the building was costly and unsightly.



**UNITED:**

Lighting Upgrades: Staff has performed LED lighting upgrades throughout the Mutual. Installation of six new solar powered bollards and 47 new walkway lights were installed as part of the United Walkway Lighting program.

Solar Generation: Installation of a \$3.8M solar photovoltaic system has been installed on the rooftops of 8 carports in United Mutual.

Laundry Room Improvements: Staff has reduced water heaters from two 50 gallon units to one high efficiency 20 gallon unit in 175 stand-alone laundry rooms.

Electrical Upgrades: Replacement of almost 600 Pushmatic Electrical Panels in United Mutual.

**Miscellaneous Improvements within GRF, United and Third:**

In addition, miscellaneous improvements outside of energy savings included water efficiency irrigation improvements to provide immediate water savings. Currently the community has already upgraded about 19,600 sprinkler heads with a plan to replace the remaining 60,900 by 2022. Staff has been replacing outdated sprinkler heads at a rate of about 3-4 thousand per year to improve or correct problems of low pressure, poor coverage, reduce run-off and address Tier 3 and 4 water meter consumption.

The next step was to evaluate the existing irrigation control system to identify the potential improvements available from newer technology that can provide more optimization with less manual adjustments required. It was determined that the system could not be cost effectively upgraded. We are using a Rainbird Maxicom computer irrigation management system for all of our irrigation programming. It is connected to an on-site weather station and self-adjusts for optimal control. It is working very well and does not need upgrading at this time.

After an evaluation of the shrubbery sprinkler systems for potential water efficiency improvements we are converting some areas to drip irrigation. Drip irrigation is problematic and is not recommended for total conversion.

Several water efficient landscapes have been installed and this program continues. There is no cataloguing of those areas. Larger projects are completed with Reserve funding in the amount of \$250,000 for 2018, and additional funding for 2019.

**FINANCIAL ANALYSIS**

There is not a specific financial analysis regarding this report but all of the upgrades will provide individual financial benefits to the community.

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